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No. 10

LABORATORY BULLETIN

STATE DOCUMENTS

MONTANA STATE DEPARTMENT OF HEALTH
HELENA, MONTANA



No. 10 - October 28, 1968

Infectious Mononucleosis and the Serology Laboratory

The isolation of a virus by the Henles and others which appears to cause infectious mononucleosis has confirmed the belief of many years that this is a viral disease. Recently the assistant director of our laboratory attended a course in Boise put on by the National Communicable Disease Center entitled "Morphological and Serological Diagnosis of Infectious Mononucleosis". This bulletin discusses a change in testing resulting from this course and presents some data on the disease in Montana.

As noted in Bulletin No. 7, we have substituted the OX CELL HEMOLYSIN TEST for the heterophile antibody test. The ox cell hemolysin test measures a different antibody than the heterophile test and this antibody seems to be a more specific indication of infectious mononucleosis. The hemolysin test can be completed in 40 minutes whereas the heterophile test requires at least five hours for confirmation. The heterophile antibody titer rises rapidly and falls within a few weeks while the titer of ox-cell hemolysin persists for a longer period.

The majority of overt cases of infectious mononucleosis can be diagnosed by clinical study alone. However, the disease may assume widely divergent clinical manifestations so the diagnosis is greatly aided by demonstrating an antibody response. (There may still be cases in which the clinical picture and the hematological findings are consistent with a diagnosis of infectious mononucleosis but antibody cannot be demonstrated. We hope such instances will be fewer with the ox cell hemolysin test than with the heterophile antibody test.)

The specimen required is 3 - 4 cc of whole, clotted blood or 1 - 2 cc of serum. In some instances a second specimen may be requested so a rise in titer may be demonstrated. A preliminary report of positive findings is made by telephone.

Here is some data on infectious mononucleosis in Montana for 1967.

Tests for heterophile antibody in the Microbiology Laboratory: 672, 30 positive.
(These were also positive after guinea pig kidney and beef cell absorption.)

Cases of infectious mononucleosis reported to the State Dept. of Health: 58

Maximum estimate of number of cases based on data from a questionnaire sent to physicians:
3,511

Here is some data from state laboratories which had already adopted the ox cell hemolysin test in 1967.

CONNECTICUT	- 1,862 examinations, 658 positives
VERMONT	- 2,764 examinations, 641 positives
WISCONSIN	- 776 examinations, 242 positives

NEWSNOTE: From some preliminary neutralization tests in tissue culture, it appears that the major virus involved in cases of aseptic meningitis during the "encephalitis season" in Montana in 1968 has been ECHO type 9. This virus was also reported from Iowa. Last year the virus involved in similar cases was Coxsackie B type 5.

11